

SEQUENCE LISTING

<110> Sellers, Edward Tyndale, Rachel

<120> Use of Inhibitors of CYP2A6 for Regulating Nicotine Metabolism

<130> 62805.000002

<140> 09/214,851

<141> 1999-09-09

<150> PCT/CA97/00506

<151> 1997-07-17

<160> 11

<170> PatentIn version 3.1

<210> 1

<211> 7215

<212> DNA

<213> Homo sapiens

<400> 1

aagttcccct gaaatatggc tctggtcttc ctccccttgc caatgaagaa gatggcagtg 60 gaggttctat ggcagccatc ctggcctcac tctgaggttc caatgaggat tctgggcatc 120 aagagacage tetgggcaaa getaaateaa gteageeeet ggaeeeagtg etgggetget 180 gggctttctg ggagaacgcc gctgggcttg ctacacactc ctcctcccag aaactccaca 240 eccacagece tgggtettee tageceegag acttteaagt ceatatgeet ggaateecee 300 ttcctgagac ccttaaccct gcatcctcca caacagaaga cccctaaatg cacagccaca 360 ctttgtctta ccctaataaa acccagacct ttggattcct ctcccctgga acccccagat 420 ccgcacaact ttggggtgca ttctcactct cagaccccaa atccaaagcc caagtgctcc 480 cctatgcaaa tattccaaac tcctcagttc tacagcttat ctgttgcccc ctcctaaatc 540 cacagecetg eggeaceeet cetgaagtae cacagattta gtetggagge eeeetetetg 600 ttcagctgcc ctggggtccc cttatcctcc cttgctggct gtgtcccaag ctaggcagga 660 ttcatggtgg ggcatgtagt tgggaggtga aatgaggtaa ttatgtaatc agccaaagtc 720 catecetett tttcaggeag tataaaggea aaceaeeeca geegteaeea tetateatee 780 ctctaccacc atgctggcct cagggatgct tctggtggcc ttgctggcct gcctgactgt 840 gatggtcttg atgtctgttt ggcagcagag gaagagcaag gggaagctgc ctccgggacc 900 caccccattg cccttcattg gaaactacct gcagctgaac acagagcaga tgtacaactc 960 cctcatgaag gtgtcccaag acagggagat gggtgtctcg gggtgggggc tgcctagttg 1020 gctggggctt tgtggcaggg ggttgaccag tgtggaccag agtcttagga aatggagttt 1080

OH

tggagtttca gcatcagaaa gacaggatct tgggatgtcc agctccctga ctgtgagaac 1140 ctgggtgcga agcatcccag cacatgacat ctcggtgctg ggccccattc agagtggagg 1200 gttctccctc taaccactcc caccacctc catcagatca gtgagcgcta tggccccgtg 1260 ttcaccattc acttggggcc ccggcgggtc gtggtgctgt gtggacatga tgccgtcagg 1320 gaggetetgg tggaccagge tgaggagtte agegggegag gegageaage cacettegae 1380 tgggtcttca aaggctatgg tgcccaagag ggggaaggtg ggcaggtgga cacgaaggtc 1440 tcagtgttcc cagcettctc cctgactctc ctgacaactg gaggataagg gagagtcccc 1500 agtotggtot tocotococa totocotaca ttggggcoto tocatgtgta tocotoacot 1560 gtctccagcg gccctgtcct gattcctccc tgcctctctc tgccccacct ccttattctc 1620 teteaetgga gteteetett teecetetet etecatetet aaggacatee tgggtttetg 1680 tttaccagcc ctgggtctct gtctacatga gtctttgagg ccctcttagc ttctgggctt 1740 ctctgggttt ctcatctctc cggatccctt tctcaattct tcctctgtct taggatgcca 1800 gggttattcc tacttccaca tcttcaggct ccatctcctg gtaacagtct ctcttccttc 1860 cagaccetet etgtttetat etcaatatta aactetetge tecageteag ettaagaate 1920 tcacaccaag agaggatgtc ctccacccag atctccccat atctcactac cccaccctcc 1980 atectetgee tecateacte tetttetete eccaetgece tgeggaegeg atecaatgga 2040 gtgtggagct aatgccgtga agctatgtgc atctctctgt ctggccgtac ctgggtaata 2100 acctgatcga ctaggcgtgg tattcagcaa cggggagcgc gccaagcagc tcctgcgctt 2160 tgccatcgcc accctgaggg acttcggggt gggcaagcga ggcatcgagg agcgcatcca 2220 ggaggagteg ggetteetea tegaggeeat eeggageaeg eaeggtgage aggggaeeee 2280 gagtgcgggg gcaggagaag gaaaacaccc aggacgagga acccgcgcgc gttctgcctg 2340 gggatgggga ctaggtgggg aaaggcgccc gcacttccag ccctggagtc tggcgctggg 2400 aatttggctc aacaaggccc tgcctcctgg aattctgact ctcctcagac ctctgagttg 2460 actetetece caaceceett etecegacat acceggagge gecaatateg ateceacett 2520 cttcctgagc cgcacagtct ccaatgtcat cagctccatt gtctttgggg accgctttga 2580 ctataaggac aaagagttcc tgtcactgtt gcgcatgatg ctaggaatct tccagttcac 2640 gtcaacctcc acggggcagg taatggttgc agcccggccc gtgaaggccc ttaccaaaac 2700 cggcaaattg ttcccctacc gggggaaggg ggccccaaat tcccaccgcc ccccggacag 2760 tgtcccctca aaatcagtcc ccgatttggg caaattggca gagtggaacc agacccgggt 2820 tggttgtcca atcccctgct ctccagggac accgggatag cacaacagat gctccccaaa 2880 acagageetg etggeaggat geataceete ageteagete teteaceetg ggeaegtgtt 2940

3000 cccatcccca acttaccggt aatttctaac agatgctccc tacccaggtc ttcttgaata 3060 ttttaacacc cggaaaccct gggtacctaa ccttccctgt aaactttaga gattagttcc tateeggeee etetgaaata eetaaeeaee ggagaeeaga tgeetttaae teagtteett 3120 3180 ccttgctatg aaacaaatcc cattcccatc agetcctgcc ccgtgacagc tgtccttccc 3240 ttcccatcct ctctctgcaa ccccagctct atgagatgtt ctcttcggtg atgaaacacc 3300 tgccaggacc gcagcaacag gcctttcagt tgctgcaagg gctggaggac ttcatagcca 3360 agaaggtgga gcacaaccag cgcacgctgg atcccaattc cccacgggac ttcattgact 3420 cctttctcat ccgcatgcag gaggtacacc ccagcagcca ctgcggggag atgcaaagcc aggcagaggg aaatcagtct gggagtgggg caggcagatg acacaggccc attcaaatta 3480 3540 acceteatea taataateet cacaattgge tgggtgeegt ggetaacage etgtaateee agcactttgg gaggccgagg caggtggatc acctgaggtc aggagttcga gaccagcctg 3600 3660 gccaacatgg tcaaaccccg tctctactaa aaatccaaaa attagttggg catggtggcg cgaagggggg cagaggttgc aatgagccaa gatcacggca ttgcactcca gtctgggtga 3720 3780 cagaatgagg ccctgtgtca aaaaaaatta atcacttgtt taaaaagtaa gtgagcctgc 3840 atggtcatgc gcatgtgcag ctccagctac tcaggaggct gaggctggag gattgcttga 3900 gctcaggagt tggcgtccgg cctgtgcaac ttagcaagac caagtcagta taagaaaaaa 3960 aaaaaacaaa aaaaaagctg acagctaagt tgataattga cggacagatg gtcagcaagg 4020 taacgaaggt gagaaggaag agcattgggg gcaacgccag gagtcagggc aagggctggt 4080 tectagageg agtetggtag gatetaggge ceetettete caecetgegg tettgeecea 4140 aagagaggtc gagggtgctg ggattgcgct agactcgagt ctgtgtagat cttggggtcc 4200 cctcttgacc cccattggtc tgaacctaag agtggaagat ccatggggtg aacccctaga 4260 tggtgccctg aggtcaagca ggagtgaggt tgtcctaaag ccccctctcc cttcaggagg 4320 agaagaaccc caacacggag ttctacttga agaacctgat gatgagcacg ttgaacctct 4380 tcattgcagg caccgagacg gtcagcacca ccctgcacta tggcttctta ctgctcatga 4440 agcacccaga ggtggagggt aaggctggag ggggacggaa gtggagggcc ccagaccctc 4500 aaaattcccc ttcgactggt gcaatgtccc cacctgtccc agatcccggg accctgagac 4560 gtgacttgct gtccagagac agggcaacat tcagctggta ggcatcagct gagtctcatt 4620 agatattaaa atattgaaaa tgtctgcact gattggtcag tcacttctgt cccaagccca 4680 ctgagtgccc actgcccgtt ccaccgggtc atcccctaag ttcctccctg tgcctcccct 4740 gtgattctgg cacaacctgg ttaacaggat cctactccaa caatgcgaat gggtgatgtc

014

tgttctgtta tgaatgctct acttccgtct cataggcgga ggcatttcat ccaccccatt 4800 ttgcctatcc ggactatcat ttcctgctct gagaccccta gatacctaaa cacattcccc 4860 4920 etectecce agecaaggte catgaggaga ttgacagagt gateggeaag aaceggeage ccaagtttga ggaccgggcc aagatgccct acatggaggc agtgatccac gagatccaaa 4980 gatttggaga cgtgatcccc atgagtttgg cccgcagagt caaaaaggac accaagtttc 5040 gggatttett cetecetaag gtgetateeg eecceaeee eeagaetaeg gggaeteeag 5100 eccetetetg tgtececage ateceaecca cattagaage tttetagace etgteceaet 5160 5220 ccctcaatca gtcaaaaaag acttccccaa ccaccatc cgttccacct ttccacttag acacteetga gteetgeate tetecagaet etttgtgtea ggagaateaa acacatgtte 5280 ccaaacttcc tatcttaaga aacagaagcc ccctttccat tcggcctttt gtcataggga 5340 cagaaatete aggteeecca aacteetgee tagaaggaca tggaceecat gteteecaaa 5400 cttcctgttt cagagatgtg aaccttctat cccccaaggt cctccctcag aggtccccaa 5460 ttcccatgcc tgccacttcc cctcaccggg gcaccctagt tccccctcca gcccctgtgt 5520 actotoaaca atococcaac cogootoato acatacacot tootootoco toccagggoa 5580 tagaagtgtt coctatgttg ggctccgtgc tgagagacct caggttcttc tccaaccccc 5640 gggacttcaa tccccagcac ttcctgggtg agaaggggca gtttaagaag cgtgatgctt 5700 ttgtgccctt ctccatcagt aagagaccac tgtttggtgc caggcttact actcacacca 5760 geaggggeet ceettaceea gtteceetet etgeegtgta geetagtatt teceeagett 5820 ggcaagttcc tgttagcaat ctaccgtcga gccaccaggt gatactccct taactaccaa 5880 gcacccagta cctgtgccca ggcaaaagga aaggaaacat catacccctt tcagaggcgg 5940 gggaaaacca aaggccagag agaatcagag atttatttcc ctagggtcac acaggagatt 6000 cttcagcatc cctaaaaagg agatgacggc acagcaggtc atatttggga gttcttatct 6060 gggggaaggg ggatcttaaa cctcccattg tggacacctg gcatcgatca accccatctt 6120 ttggtcatct tttgggtcac tcaaggaaac tgaggtcaag gagggtcaag aggctccctc 6180 ttaaagtctc tcagggccat atattccacc cttcctcct gggagagccg cagctggagg 6240 teggtactgg ggcgaggetg cactgagagt gggetteace tecacecete eegeetetee 6300 tcctcaggaa agcggaactg tttcggagaa ggcctggcca gaatggagct ctttctcttc 6360 ttcaccaccg tcatgcagaa cttccgcctc aagtcctccc agtcacctaa ggacattgac 6420 gtgtccccca aacacgtggg ctttgccacg atcccacgaa actacaccat gagcttcctg 6480 ccccgctgag cgagggctgt gccggtgaag gtctggtggg cggggccagg gaaagggcag 6540 ggccaagacc gggcttggga gaggggcgca gctaagactg ggggcaggat ggcggaaagg 6600

014

aaggggcgtg gtggctagag ggaagagaag aaacagaagc ggctcagttc accttgataa 6660 ggtgcttccg agctgggatg agaggaagga aacccttaca ttatgctatg aagagtagta 6720 6780 ataatagcag ctcttatttc ctgagcacgt acccccgtgt cacctttgtt caaaaaccat 6840 tgcacgctca cctaatttgc cacaaaaccc ccttcgaagg ggcgttcatg cccattttac acgtgacaaa actgaggctt agaaagttgt ctctgatgtc tcacaaaaca taagtgccca 6900 6960 gaaaatctgc gaacacagat ctgtgcccat agccttctag acagattctt aaaaagcacc tattcctcac gcaaaacagt ttagtataga atcacatggc ctgaacatcc ctgtccgggg 7020 gagttcccca gagacctggg gggtggttgc cctgccttca ctgcacacat gcccacactc 7080 7140 tcacctactc aacatgctgt gactacccgg gtgtaatctg tgcttgctac cagataaggc 7200 cactgtagcc cattcagagt cagcccaggg acacaacgag acatgactgg acatacaggg 7215 tcagtccatt aacaa

4

<210> 2 <211> 1415 <212> DNA <213> Homo sapiens

<400> 2 60 gaattccgcc ctgcacccat gaccgcctcc caccagggcc ccgccctctg ccccttttgg gaaaccttct gcagatggat agaagaggcc tactcaaatc ctttctgagg ttccgagaga 120 180 aatatgggga cgtcttcacg gtacacctgg gacccaggcc cgtggtcatg ctgtgtggag tagaggccat acgggaggcc cttgtggaca aggctgaggc cttctctggc cggggaaaaa 240 300 tcgccatggt cgacccattc ttccggggat atggtgtgat ctttgccaat ggaaaccgct 360 ggaaggtgct tcggcgattc tctgtgacca ctatgaggga cttcgggatg ggaaagcgga 420 gtgtggagga gcggattcag gaggaggctc agtgtctgat agaggagctt cggaaatcca 480 agggggccct catggacccc accttcctct tccagtccat taccgccaac atcatctgct 540 ccatcgtctt tggaaaacga ttccactacc aagatcaaga gttcctgaag atgctgaact tgttctacca gactttttca ctcatcagct ctgtattcgg ccagctgttt gagctcttct 600 660 ctggcttctt gaaatacttt cctggggcac acaggcaagt ttacaaaaac ctgcaggaaa 720 tcaatgctta cattggccac agtgtggaga agcaccgtga aaccctggac cccagcgccc 780 ccaaggacct catcgacacc tacctgctcc acatggaaaa agagaaatcc aacgcacaca gtgaattcag ccaccagaac ctcaacctca acacgctctc gctcttcttt gctggcactg 840 agaccaccag caccactete egetaegget teetgeteat geteaaatae ceteatgttg 900 960 cagagagagt ctacagggag attgaacagg tgattggccc acatcgccct ccagagcttc

atgaccgagc caaaatgcca tacacagagg cagtcatcta tgagattcag agattttccg 1020 accttctccc catgggtgtg ccccacattg tcacccaaca caccagcttc cgagggtaca 1080 tcatccccaa ggacacagaa gtatttctca tcctgagcac tgctctccat gacccacact 1140 1200 actttgaaaa accagacgcc ttcaatcctg accactttct ggatgccaat ggggcactga aaaagactga agcttttatc cccttctcct tagggaagcg gatttgtctt ggtgaaggca 1260 togocogago ggaattgtto otottottoa coaccatoot coagaactto tocatggoca 1320 1415 ccccaacata ccagatccgc ttcctgcccc gctga <210> 3 <211> 22 <212> DNA <213> Artificial Sequence <220> <223> Antisense Oligodeoxynucleotide ASO#15 <400> 3 22 tagagggatg atagatggtg ac <210> 4 <211> 19 <212> DNA <213> Artificial Sequence <220> <223> Antisense Oligodeoxynucleotide ASO#13 <400> 4 19 cttcatgagg gagttgtac <210> 5 <211> 19 <212> DNA <213> Artificial Sequence <220> <223> Antisense Oligodeoxynucleotide ASO#25 <400> 5 19 ggccatagcg ctcactgat <210> 6 <211> 21 <212> DNA <213> Artificial Sequence <220>

<223> Antisense Oligodeoxynucleotide ASO#23

<400> ccatago	6	21
<211> <212>		
<220> <223>	Antisense Oligodeoxynucleotide MSO#23	
<400> ccccago	7 cctt tgaagacata g	21
<210><211><211><212><213>		
<220> <223>	F4 Primer	
<400> cctccc	8 ttgc tggctgtgtc ccaagcttag gc	32
<210><211><211><212><213>	31	
<220> <223>	R4 Primer	
<400> cgcccc	9 ttcc tttccgccat cctgccccca g	31
<210><211><211><212><213>	DNA	
<220> <223>	E3F Primer	
<400> gcgtgg	10 tatt cagcaacggg	20
<210> <211> <212> <213>		
<220> <223>	E3R Primer	

<400> 11 tcgtgggtgt tttccttc

18

and